

What is Claimed is:

1. A data use management system comprising at least one receiving apparatus connected to a network and capable of receiving and using predetermined data, and a transmitting apparatus which transmits the data to said receiving apparatus via said network,

wherein use of the data on said network is managed on the basis of the transmitting time required for transmission of predetermined information between said transmitting apparatus and said receiving apparatus.

2. The data use management system according to Claim 1, wherein said transmitting apparatus has:

transmission time measuring means of measuring the transmission time required for transmission of predetermined information for measurement between said transmitting apparatus and said receiving apparatus;

reference time storage means of storing at least one reference time;

transmitting-side authentication means of comparing the transmission time and the reference time, thereby determining to which one of ranges of transmission time classified on the basis of the reference time the transmission time belongs, determining, on the basis of the result of said determination, whether or not said receiving apparatus having the transmission

time can be permitted to use the predetermined data, and performing authentication if said receiving apparatus can be permitted to use the predetermined data; and

authentication count means of incrementing an authentication count which is the number of instances of authentication performed by said transmitting-side authentication means,

wherein said receiving apparatus has receiving-side authentication means of performing authentication with said transmitting-side authentication means, and

wherein said transmitting apparatus compares the authentication count with a maximum authentication count determined in advance with respect to each of the ranges of transmission time, and inhibits further authentication if the authentication count is larger than the maximum authentication count.

3. A transmitting apparatus having a management function for enabling at least one receiving apparatus connected to a network and capable of receiving and using predetermined data to use the data by means of said network, said transmitting apparatus comprising:

transmission time measuring means of measuring the transmission time required for transmission of predetermined

information for measurement between said transmitting apparatus and said receiving apparatus;

reference time storage means of storing at least one reference time;

transmitting-side authentication means of comparing the transmission time and the reference time, thereby determining to which one of ranges of transmission time classified on the basis of the reference time the transmission time belongs, determining, on the basis of the result of said determination, whether or not said receiving apparatus corresponding the transmission time can be permitted to use the predetermined data, and performing authentication if said receiving apparatus can be permitted to use the predetermined data;

authentication count means of incrementing the authentication count which is the number of instances of authentication performed by said transmitting-side authentication means; and

the management function of comparing the authentication count with a maximum authentication count determined in advance with respect to each of the ranges of transmission time, and inhibiting further authentication if the authentication count is larger than the maximum authentication count.

4. The transmitting apparatus having the management function according to Claim 3,

wherein said receiving apparatus has a unique identifier, and wherein, when said transmitting-side authentication means performs authentication with said receiving device, and the authentication on said receiving apparatus results in success, said transmitting-side authentication means identifies said receiving apparatus through said identifier.

5. The transmitting apparatus having the management function according to Claim 4, wherein when an authentication request is sent from said receiving apparatusaid transmitting-side authentication means determines, through said identifier, whether or not from which the authentication request received from the receiving apparatus is the same as said receiving apparatus on which authentication has already been made successfully.

6. The transmitting apparatus having the management function according to Claim 3, wherein if the authentication count is equal to or larger than the predetermined maximum authentication count, said transmitting-side authentication means performs such control that said transmitting-side authentication means does not accept the authentication request from said receiving apparatus.

7. The transmitting apparatus having the management function according to Claim 3, further comprising reference time setting means of setting the reference time on the basis of the result of measurement of the transmission time required for transmission of the information for measurement over a predetermined reference route.

8. The transmitting apparatus having the management function according to Claim 3, wherein said transmitting-side authentication means sets the maximum authentication count to a smaller value on the basis of the result of said classification.

9. The transmitting apparatus having the management function according to Claim 8, wherein said transmitting-side authentication means sets, with respect to each class in said classification, a count increment value by which said authentication count means increments the count.

10. The transmitting apparatus having the management function according to Claim 3, wherein the maximum authentication count is determined with respect to each class in said classification;

said authentication count means increments the authentication count with respect to each class in said classification; and

said transmitting-side authentication means limits the authentication count so that the authentication count with respect to each class in said classification does not exceed the maximum authentication count.

11. The transmitting apparatus having the management function according to Claim 3, further comprising attribute information management means of managing attribute information about the predetermined data transmitted over said network,

wherein said transmitting-side authentication means limits the authentication count on the basis of the result of said classification and the attribute information.

12. The transmitting apparatus having the management function according to Claim 11, wherein copy control information is used as the attribute information.

13. The transmitting apparatus having the management function according to Claim 3, further comprising medium type determination means of determining a type of medium in transmission routes constituting said network,

wherein said transmitting-side authentication means sets the reference time according to the type of medium, and limits the authentication count according to the result of classification made on the basis of the set reference time.

14. The transmitting apparatus having the management function according to Claim 13, wherein when said medium type determination means detects the existence of a plurality of types of medium in the transmission routes, it selects the transmission medium type presumed to have the longest transmission time among the detected transmission media, and

wherein said transmitting-side authentication means uses the selected type of medium for setting of the reference time.

15. The transmitting apparatus having the management function according to Claim 3, further comprising transmission mode determination means of determining a transmission mode in the transmission routes constituting said network,

wherein said transmitting-side authentication means does not execute limitation of the authentication count on the basis of the result of said classification if the determined transmission mode is a predetermined transmission mode with no need for authentication count limitation with respect to the transmission time.

16. The transmitting apparatus having the management function according to Claim 3, further comprising billing information management means of managing billing information,

wherein said transmitting-side authentication means limits the authentication count on the basis of the result of said classification and the billing information.

17. The transmitting apparatus having the management function according to Claim 4, wherein said transmitting-side authentication means registers the transmission time together with said identifier and keeps the maximum value of the authentication count equal to or smaller than a predetermined number by canceling at least one of the authentications of a plurality of the registered receiving apparatus if the authentication count reaches the maximum value when authentication is newly performed.

18. The transmitting apparatus having the management function according to Claim 17, wherein if the registered receiving apparatus has a transmission time longer than the transmission time measured at the time of newly performing authentication when the authentication of any one of the registered receiving apparatus is cancelled, said transmitting-side authentication means cancels the

authentication of the registered receiving apparatus having the longest transmission time.

19. The transmitting apparatus having the management function according to Claim 3, further comprising updating means of updating, according to input information externally supplied, at least one of the reference time and authentication count limitation conditions used by said transmitting-side authentication means.

20. The transmitting apparatus according to any one of claims 3 to 19, wherein the data needs copyright protection.

21. A data use management method comprising a step of;
when transmitting a predetermined data via a network to at least one receiving apparatus connected to the network and capable of receiving and using the predetermined data, managing the use of the data via the network on the basis of the transmitting time required for transmission of predetermined information to said receiving apparatus.

22. A program for making a computer function as the means of the transmitting apparatus having a management function according to claim 3:

transmission time measuring means of measuring the transmission time required for transmission of predetermined information for measurement between said transmitting apparatus and said receiving apparatus;

the reference time storage means of storing at least one reference time;

transmitting-side authentication means of comparing the transmission time and the reference time, thereby determining to which one of ranges of transmission time classified on the basis of the reference time the transmission time belongs, determining, on the basis of the result of said determination, whether or not said receiving apparatus corresponding the transmission time can be permitted to use the predetermined data, and performing authentication if said receiving apparatus can be permitted to use the predetermined data;

authentication count means of incrementing the authentication count which is the number of instances of authentication performed by said transmitting-side authentication means.

23. A recording medium having the program according to Claim 22 held thereon, said recording medium being capable of being processed with a computer.